5-13-96

12.3.42

APPENDIX C--RESPONSE TO COMMENTS

HOLNAM Seattle NPDES Outfalls

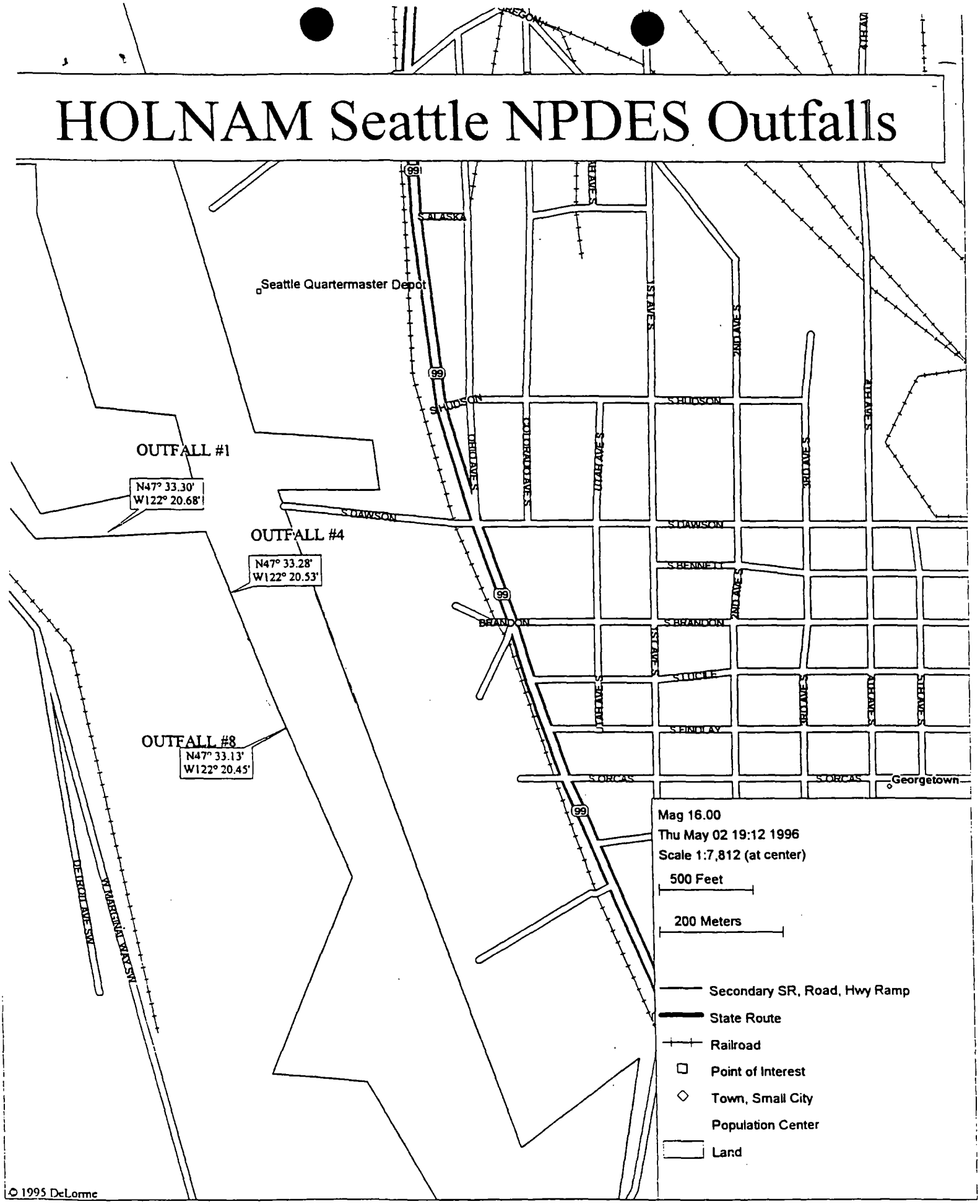
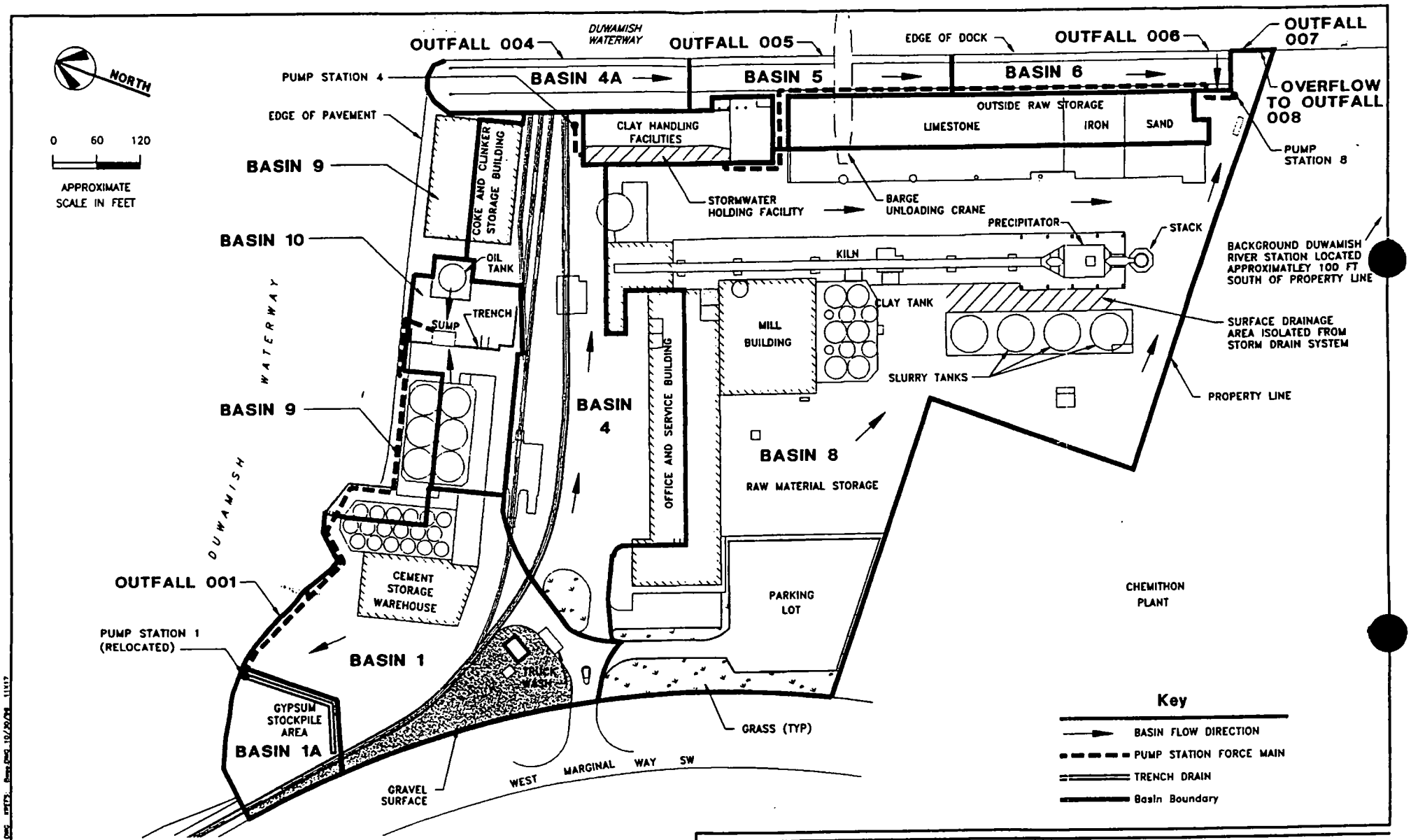


FIGURE 1



HOLNAM INC

Preferred Alternative Site Plan

FIGURE 2

PUGET SOUNDKEEPER SM ALLIANCE

Protecting & Enhancing Puget Sound

May 13, 1996

Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008–5452

Dear Ms. Zinner:

Puget Soundkeeper Alliance submits the following comments in response to the Draft NPDES Permit for Holnam, Inc., Seattle Plant, Permit No. WA-000223-2.

1415 W. DRAVUS
SEATTLE,
WASHINGTON
98119

PHONE
206. 286. 1309

FACSIMILE
206. 286. 1082

S1.B. Turbidity Limits.

The proposed permit raises the stormwater effluent limit for turbidity from 10 NTU above background to 109/270 NTU average monthly and maximum daily, respectively. **The proposed limits are a violation of 173-201A WAC**, Water Quality Standards for Surface Waters for the State of Washington, **and constitute backsliding**, which is expressly prohibited under the Federal Water Pollution Control Act. We oppose the limits and request that an effluent limit of **5 NTU** above background be established, in accordance with federal and state law.

S2. Monitoring

Quarterly monitoring for copper, lead and zinc should begin immediately upon renewal of the permit, rather than after December 31, 1998.

Sincerely,

BJ Cummings
Puget Soundkeeper

RECEIVED

MAY 28 1997

DEPT OF ECOLOGY

Response to a Request for a NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT No. WA-00223-2

by

Holnam, Inc
5400 West Marginal Way
Seattle WA 98106

from

Duwamish Indian Tribe
140 Rainier Ave S. Ste 7
Renton, WA 98055-2000
Ph (206) 226- 5185
Fax (206) 226-5240

To: John H. Glynn
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

Dear Mr. Glynn

My name is James Rasmussen, I am elected council member for the Duwamish Indian Tribe. The Duwamish Indigenous lands include the greater Seattle area, which include the Duwmish River. I represent the Tribe in environmental and cultural matters. The response from the Duwamish Tribe should be very important to the Department of Ecology because the tribe has been the recipient of monies from a settlement from Holnam Inc. We have been very grateful for the opportunity to take an active roll in the health of river, with creek restorations in the lower Duwamish watershed. We do not want the health of the river to be diminished by giving Holnam Inc a new permit.

I think it is important to look at a historical view of the river. The lower Duwamish supported a range of habitat before the turn of the century. It supported over 4,000 acres of wetland and a wide variety and large numbers of plants and animals. Several types of development began to affect the lower Duwamish River in the early 1900s. Diversons of tributaries to pipes and storm drains reduced the river's dranage basin by 70 percent. At about the same time, the river was dreged to create the Duwamish waterway, replacing nine meadering miles of river with a straight, deep, four mile-long channel. This eliminated natural shoreline habitat, filled marshes and mudflats, construction of buildings and pavement. Altogether, these actions eliminated over 98 percent of the lower Duwamish River's wetlands (Blomberg et. al, 1988)

Mr. Richard F. Foster published a report in 1945 called "Sources of Pollution in the Duwamish-Green river

Drainage area". It is a walk through a "Dantes Inferno" of pollution. It is attached to this response.

Currently the river is in much better shape than the forties or fifties and through the efforts of people, sensitive government and laws like the Clean Water Act. And large settlements like the Elliott Bay\ Duwamish Restoration Program the river might have a chance to survive. But it needs this chance.

The history of pollution on the river is in the sediments. Like a toxic cake, pollution keeps getting added to the sediments. The layers around the storm water outfalls adjacent to Holnam Inc. Cement Manufacturing plant contain caustic waste, oils and grease. The water column has suspended solids that create plumes on high discharge days. Increasing Holnam Inc output will increase the suspended solids and toxic sediment.

one of the most important issues is the location of Holman Inc. It is directly up river from Kellogg Island and Terminal 107. This is one of the last opportunities to make a difference on the river. This area has been slated by the City of Seattle Parks the Port of Seattle and Elliot Bay\Duwamish Restoration Program as a restoration site. It is one of the last stretch's of the old river. By increasing the output of Holnam Inc, you put these projects and the people who will be using them at risk. The irony of the permit request is not lost on me either. We are not talking about elimination of pollution, but what could be a very damaging increase of the toxicity of the water directly upstream from one of the only best hopes the river and the people trying to save it have.

At the very least please hold public hearings on the permit request.

Sincerely

James Rasmussen

c.c. Ron Sims King Co. Exec.
c.c. Dwight Peltz King Co. Council
c.c. Norm Rice Mayor Of Seattle
c.c. Charly Chong Seattle City Council
c.c. Greg Wingart Waste Action Project
c.c. Elliot Bay \ Duwamish Restoration Panel
c.c. John Beal I. M. A. P.A.L.

December 6, 1945

Report No.

SOURCES OF POLLUTION IN THE DUWAMISH-GREEN RIVER DRAINAGE AREA

by

Richard F. Foster

INTRODUCTION

This survey was conducted in order to determine the sources, types and quantities of waste material being discharged into the Duwamish River Basin. The principal towns, cities and industrial plants situated on or near the Duwamish Waterway, the Green River and such principal tributaries as Mill Creek, Big Soos Creek and Neuwackum Creek were visited and a general description of waste products being discharged into the river system was obtained.

The Duwamish River Basin includes approximately 460 square miles and lies wholly within King County. Scores of small creeks and streams arising on the Western slopes of the Cascade Mountains for the source of the Green River. The course of the main stream is swift and turbulant as it flows westward toward Puget Sound. Once past the spectacular Green River Gorge the water becomes quieter and below the City of Auburn the Green River is generally a placid lowland stream as it turns northward through a flat and fertile valley. Several small lakes scattered through the hills at the side

of the valley contribute to the drainage.

The present drainage of the Duwamish River is, however, vastly different from its primitive condition. Originally the Duwamish River had a drainage area of some 1633 square miles and was formed by the junction of the White River and the Black River about sixteen miles above Elliot Bay. The Black River originally was the outlet to Lake Washington. At this time the Duwamish Valley was subject to violent, inundating floods in the spring and fall of each year. Before the construction of railroads, the River was regularly navigated by flat-bottomed boats carrying farm products and supplies to and from Seattle.

In 1906, an extreme flood diverted the upper portion of the White River into the Stuck and thence into the Puyallup River, thereby reducing the drainage area by 867 square miles. In 1916 Lake Washington was lowered and the Black River no longer formed its outlet; thus the Cedar River drainage was also cut off. There remained but the present 460 square miles of drainage area. The West Waterway and the lower Duwamish have been straightened and dredged, the excavated material used to reclaim adjacent land.

The upper half of the present drainage area (Green River) serves as the watershed for the City of Tacoma. This area, including some 231 square miles is indicated on Figure 1, by the shaded portion. Logging and lumbering is practiced in the upper section between the headwaters and the Green River Gorge. Just north and west of the

Green River Gorge, several coal mines are in operation. Between Auburn and Seattle practically all of the land adjacent to the river is utilized for truck gardening and dairy farming. Within the City Limits of Seattle a large number of industrial plants line the Duwamish Waterway; this is one of the most highly industrialized areas of the entire State.

At the Geological Survey's gaging station near Auburn, the Green River has a mean flow of approximately 1,000 second-feet. Since the establishment of this gaging station in 1936, the maximum recorded discharge has been 14,400 second-feet, which occurred in April, 1938. However, since in December 1933, a discharge of 33,600 second-feet was recorded at the gage at Palmer, Washington one would suspect that the Green River in the vicinity of Auburn must have had a discharge of about 44,000 second-feet at the same time. In September of 1940, the flow of the Green River dropped to a low of 113 second-feet.

The present tributaries which enter the Green River below Auburn do not materially increase the total discharge and, therefore, the figures given above may be taken as representating the entire run-off of the drainage system. During an average year, one might expect the discharge of the Green River to fluctuate between 150 and 5,000 second-feet. Unusual floods may increase the flow to 44,000 second-feet; a year of severe drough may decrease the flow to about 100 second-feet. At Palmer Junction, the City of Tacoma diverts about 85 second-feet for municipal supply.

Tidal fluctuations occur as far upstream as Renton Junction, or the old mouth of the Black River. Dredging has made the Duwamish Waterway navigable for vessels of moderate size as far as 14th Avenue South within the City of Seattle.

AREAS OF POLLUTION

Seattle

The Duwamish Waterways within the City Limits of Seattle receives a larger volume and greater variety of polluting substances than all of the remaining watershed combined. The expansion of existing factories and the addition of several new industries since the outbreak of war has materially increased the pollution load, both from industrial wastes and from domestic sewage.

West Waterway

Along the west side of West Waterway are several comparatively small establishments which discharge no industrial wastes, except for trivial spillage. These establishments are 1. the Puget Sound Bridge and Dredge Company, now building wooden barges, 2. the KOMO and KJR radio transmitters, 3. the Ames Terminal Company, now doing ship fitting, 4. the Drummond Lighterage Company, 5. the West Waterway Lumber Company, 6. The Maritime Boat and Engine Works, and 7. the Spring Hill Lumber and Coal Company. The local sewage from each of these plants goes directly into the waterway, however.

Just North of the Spokane St. Bridge is the National Fruit Canning Company. During the 1943 season this cannery put up 3500 cases of fruit, the majority apples; their cold pack consisted of

9000 30# cans and 1500 gallon barrels, including all types of berries, apricots, cherries, currants, grapes, etc.; in addition many thousand of pounds of preserves were put up. The largest volume of waste material comes from apples, peaches and apricots. When possible, gross solids are screened out and hauled away to the city dump. However, pitts, culls, cuttings, floor washings and the like go directly into the waterway.

South of the Spokane St. Bridge and immediately behind the U. S. Coast Guard Base is the Pacific Coast Forge Company, manufacturer of nuts and bolts. This plant formerly discharged some oil from cutting machines into the Waterway. The U. S. Coast Guard notified them to discontinue this practice. The oil is now directed into a large sand pit on the property which, at the present time, serves as an adequate filter. However, in a few years this sand will probably become saturated with the oil and the waste will again seep into the Waterway. A considerable volume of acid waste also originates in this plant. In the galvanizing plant the contents of an acid tank of about 875 cubic feet capacity is dumped every two weeks; the waste liquid goes into the above mentioned sand pit. Another acid containing tank holding about 58 cubic feet of solution is used for dipping wire. This tank is dumped every four to six weeks and the waste acid goes into an underground settling box, then drains to the waterway. The local sewage from some 150 persons also enters the River.

Immediately upstream from the Pacific Coast Forge Company is the base of the General Construction Company. This base is for storage and repair of equipment only. No waste other than the sewage from about

15 persons is reported to enter the water. Opposite the head of Harbor Island is the Prefabrication Product Company. Their only industrial waste is sawdust and this is burned for fuel.

The east side of West Waterway is characterized by large shipyards and petroleum product storage. On the northern end of Harbor Island the General Petroleum Company, distributers of Mobilgas, have rather extensive storage facilities. Besides domestic sewage, condensate from boilers is also piped to the water. This is a drain from steam coils used to heat lubricating oil. Breaks have been known to occur in these steam coils allowing oil to enter them and thus drain to the bay.

At the northwest corner of Harbor Island are the Todd Dry Docks. Oil slicks of considerable size are frequently present on the water about this yard. Since apparently only a meager effort is made to rid the holds of damaged ships of the oil, sludge, etc. which they contain, a quantity of oil drains from such vessels when they are dry docked. While it is recognized that, during the existing war emergency, speed in the repair of ships is vital, the extensive and continued spilling of oil into West Waterway and Elliot Bay does not seem justified.

As with all other establishements along West Waterway, sewage from the Todd Drydocks is discharged into the waterway. Also reaching the waterway is approximately 500 pounds of acetylene generator waste per day, which is sluced out directly from the generators.

Just east of the drydocks are storage installations of the Richfield Oil Company. All surface and other drains which might contain

All surface and other drains which might contain oil are directed into a large three-compartment sump. This sump operates efficiently and appears well cared for. Water draining from the sump and into the waterway appears quite clean and relatively free from oil. When small tankers are loaded with oil at the dock, pans are placed under hose connections to catch any spillage. Large tankers are reported to spill about two gallons of oil when unloading. Considerable quantities of gasoline on the water in the vicinity of the Todd Drydocks are reported to have often appeared when tankers are unloading at the Richfield Dock.

Behind the Richfield yards the Signal Oil Company has some small storage facilities. There are no drains which go to the waterway, however.

The Associated Shipbuilding Company is located about halfway down the east side of West Waterway. This is a large yard building airplane tenders and mine sweepers for the Navy. Sewage from some 11,000 persons enters the waterway through several outfalls. Acetylene generator wastes from about 900 pounds of carbide are dumped into the waterway each day. Some sulfuric acid drippings and spillage from a steel pickeling tank and a copper dipping tank drain into the waterway. No major oil wastes enter the water from this yard and local regulations further aid in keeping the water clean.

South of the Associated Shipbuilding Company is the Puget Sound Bridge and Dredging Company. This is mainly a storage and repair base for equipment. A trivial amount, about two buckets per day, of acetylene generator waste is dumped into the waterway. There is little or

no oil waste; wood scraps are hauled to the city dump and burned. Sewage from about 200 persons goes into the water.

The Charles H. Lilly Company is the next establishment along the east side of West Waterway. This company deals in seeds, fertilizers, and the like. In the preparation of fertilizer and insectisides only dry ingredients are mixed, there is no waste which must be discarded. Local sewage of from 90 to 95 persons is the only pollutant reported to enter the waterway from this plant.

The Fisher Flouring Mills Company has a large installation about one block north of the Spokane Street Bridge. The only industrial waste which is emptied into the waterway from this plant is water which has been used to wash off dirt clinging to the grain. Sewage from some 400 persons enters the waterway.

Three small metal working shops just west of the Spokane Street Bridge constitute the only other industrial plants of Harbor Island which are situated on West Waterway. These shops, namely Robert Campbell and Brothers Machine Shop, Bernth & Company, and Nieder and Marcus, occasionally dump small quantities of metal scraps and shavings into the waterway. Each contributes sewage from about five people.

On the east side of the Duwamish Waterway, just upstream from the southern tip of Harbor Island, is the Superior Portland Cement Company. Wastes discarded into the River from this plant include the sewage from about 75 people, and water which has been used to cool bearings. Old brick, kilm lining, etc., are used for fill behind a bulkhead.

ar the foot of W. Oregon St., a city of Seattle sewage treatment
ischarges its effluent into Duwamish Waterway. This plant re-
:he sewage pumped from the western side of Lake Washington,
' Seward Park, it also picks up the sewage from a part of the
i section of Seattle and such industries and establishments located
Waterway that do not discharge their sewage directly into the
. The sewage passing through this plant is given primary treat-
the effluent is chlorinated. The plant was designed for a pop-
)f 32,000 and the present contributary population is estimated
) persons, which includes the workers at Boeing Plant No. 2, and
:son Iron Works.

he West bank of the Duwamish Waterway, approximately opposite
e treatment plant, are the Pacific Stove and Foundry Company,
acturers Mineral Company and the Cunningham Steel Foundry. The
tove and Foundry Company in order to carry on various types of
itment, maintains small (approximately 50 gallon) tanks of
leaner, sulfuric acid, muriatic acid, sodium borate, cyanide,
:alts. These tanks are said to never be drained into the
when they are cleaned, which is about once a year, their con-
dumped onto an adjacent lot.

anufacturers Mineral Company is a concern which grinds up
i other mineral rock brought in by rail. Their only waste
a fine granite sand for which there is little market. This
ed for fill along the river banks. The Cunningham Steel
)loys no acids or other strong chemicals which are discarded

into the waterway. Their principal waste material is foundry sand which is dumped at water's edge for fill. This company contemplates installing a sand crushing and washing plant, the wash water to go into the river. Before the Cunningham Steel Foundry is permitted to operate such a plant, the specifications should be reviewed by the Pollution Commission.

Near the Northern end of Turning Basin No. 1 is located the Seaboard Lumber Company. This mill sells all of its sawdust to fuel dealers. In hauling the sawdust away, some is transported by scows and in so doing a small amount is lost into the water. Local sewage enters the waterway.

The Abrahamson Brick Company is situated on the Western side of the first turning basin. This company discardes broken brick and similiar material over the river bank to make a fill. A small amount of oil is used in making the brick and sometimes a very light film may be seen on the surface of the water as the oil leaches out of the discarded brick.

On the eastern shore of the Duwamish waterway, opposite the first turning basin is the U. S. Army Quartermaster Depot. For the most part this depot is connected with the City sewer. Sewage from about 115 persons working in one particular area goes directly into the waterway, however.

Just south of the army depot the Glacier Gravel Company has storage and dispersing facilities. Gravel and sand are unloaded from barges into hoppers, some is spilled into the waterway during the

transfer. Special trucks loading at this point mix concrete while in transit. Washings from these trucks, together with any excess concrete is placed on a fill beneath their dock. Concrete dumped into the water at this point does not discolor the water over a radius greater than 25 feet.

The next establishment upstream worthy of note is the Seattle Boiler Works. The only waste discharged into the waterway by this firm is relatively clean water from a hydraulic press. Beside the Boiler Works, at the foot of Brandon St. is located the outfall of a storm overflow from the trunk sewer which leads to the treatment plant. Sewage is discharged from this outfall only when surface run off, due to heavy rains, becomes too great to be handled by the normal sewerage channels.

Directly across the waterway from the Seattle Boiler Works is the Pacific Metal and Salvage Company. This company specializes in dismantling, wrecking and salvaging old boats. Broken pieces of the ships being wrecked often fall into the water. On one occasion a ship under destruction sank and a considerable quantity of oil was released into the water.

The Seabell Shipbuilding Company's yards adjoin those of the Pacific Metal and Salvage Company. This ship yard is building large wooden vessels. Their principal waste is wood scraps and these are burned. Local sewage enters the waterway.

Nearby the Crown Zellerbach Corporation operates a plant which

manufactures charcoal for gas masks and similar uses. The process includes a wash in a tank of 100 cubic feet capacity which contains a solution of copper ammoniate, this tank is cleaned about once a month and the contents drain into the waterway. This practice should be discontinued and it was recommended that the tank be dumped onto an adjacent, vacant field. (This field was already being used as a dumping ground for discarded charcoal and sawdust.)

On the east side of the waterway near Brandon St. is the I. F. Laucks factory which manufactures paints and glues. The greatest volume of industrial waste from this plant arises from a 180 cubic foot washing tank. This tank contains about 400 lbs of flaked caustic and is used to wash 55 gallon metal drums. These drums contained a phenolic-blood glue and each one still retains from one to five pounds of the compound prior to washing. From 100 to 150 such drums are washed each day. The manufacture of this type of glue is being discontinued but the wash will still be used to clean containers for other synthetic glues. The wash tank is emptied about every six weeks. Drainage, spillage and washings go into a sump which is cleaned periodically, thence into the city sewer. Other wastes include from three to five gallons of paint per day which is lost from the mixing machines, and about five pounds of glue (phenalic-blood) which is also lost at mixing machines.

The Seattle Export Lumber Company is situated on the waterway directly across from the Seabell Ship Building Company. Most of the

sawdust from this mill is sold, the remainder is burned. An old but small sawdust pile at the south corner of this yard is no longer used. Cooler water and sewage from the mill go into the Duwamish.

Adjoining the yards of the Export Lumber Company is the Siler Box Company. A considerable quantity of sawdust is produced at the Box Company's mill; practically all of it is sold, the remainder goes into a burner. Up until about two years ago the sawdust was dumped under the mill at the water's edge. There is now a large pile on the tide flats under this mill. This mill should be inspected occasionally to make certain that no more sawdust is dumped onto the tide flats.

On the west side of the second turning basin is the Klinker Sand and Gravel Company. This company has operated at this same location for some sixteen years. Their gravel washer discharges at the rate of 600 gallons per minute, 6 hours a day, 5 days a week. In the washing process all fine sand is screened out. The wash water is discharged into the Turning Basin. There is little river current in this basin and the bottom is a mud flat which is exposed at high tide. Excess concrete and washings from trucks are dumped over the river bank to help make a fill.

The Boeing Aircraft Company; Plant No. 1; is situated on the southern bank of the second turning basin. This plant has a highly toxic, chromic acid waste which is discharged into the Turning Basin. This waste comes from two 2200 gallong tanks which are dumped about every eight months. The daily loss of chromic acid through spillage

and drippings amounts to from 25 to 50 pounds. Acids are also used in the pickeling room but there the tanks are never dumped. A very small amount of cutting oil may also get into the river.

Just above Plant No. 1 of the Boeing Aircraft Company near the tributary population First Avenue South Bridge a 24 inch municipal sewer enters the Duwamish. For about two miles above this bridge, the western river bank bounds the semi-rural South Park District. Industries are here confined to the eastern bank of the waterway.

Just above the First Avenue Bridge are the Johnson Manufacturing Company and the Nettleton Baldwin Company. Fire recently swept these plants. But work has been resumed at the Johnson Manufacturing Company which is a machine shop. This shop is sufficiently removed from the waterway so that no waste material enters the river at this point. Further upstream is Pacific Huts Incorporated. This concern produces a considerable amount of waste sawdust which is hauled to the city dump for disposal. No other industrial waste is reported.

The National Steel Construction Company is located just South of Pacific Huts. This company maintains a 1250 gallon tank of five per cent sulfuric acid which is emptied about once a month and a five per cent hydrofluoric acid tank of about 250 gallons capacity which is emptied about once in two months. All drainage, spillage, etc. from these tanks goes into the waterway. Local sewage goes into septic tank.

Across Myrtle Street from the Steel Company is the Continental Can Company. This can Company has one of the largest machine shops

in the Northwest and all of their facilities are now working on war contracts. The only waste which is discharged directly into the river is cooler water from a compressor. A small amount of cutting oil is dumped in the yard and must filter through the ground before reaching the river. A cyclone fence prevents dumping over the bank.

Just upstream from the Continental Can Company is the Seattle Concrete Pipe Company. Cleanings from their machines, which is mostly a dry mixture of concrete, are dumped on the river bank to make a fill. Little of these dumpings gets into the water since practically all dumping is above the high tide line.

Across Eighth Avenue South from the pipe company is the Puget Timber Company which treats telephone and light poles with creosote. The butts of the poles are placed in a tank and hot creosote is circulated around them. There is little chance of the creosote getting into the Duwamish since the circulating system is closed and there are no drains to the river. It is sometimes necessary to ship the treated poles by water and during such shipment a small amount of the creosote oil leaches out of the poles and into the water.

At the foot of Eighth Avenue South is the Hydraulic Supply Manufacturing Company, which does machine work and pipe making. This company generates their own acetylene and about 150 pounds of waste carbide drains into the river everyday. A large tank containing asphalt for dipping pipe is maintained, but there is no drain or other means by which waste from this tank might reach the river.

At the head of the slough which lies near Eighth Avenue South is the Washington Machinery and Storage Company. No appreciable quantity of waste appears to enter the waterway from this machine shop. No vats of liquids for treating metals are maintained. Acetylene is supplied from a small portable generator, the waste from which is buried on the grounds. This company cleans out old oil tanks which are to be repaired. In such cases the waste oil is drained into a pit which is several hundred yards from the river. Such pits are later covered over.

On the west bank of the river, directly across from the Hydraulic Supply Manufacturing Company an eight inch sewer outfall discharges into the Duwamish. Two blocks further south, at the foot of Tenth Avenue South, a ten inch sewer also empties into the river. Both of these sewers serve a part of the South Park District of Seattle.

The Boeing Aircraft Company, Plant No. 2 is situated on the east bank of the Duwamish, just above the Sixteenth Avenue South Bridge. The most serious pollutant entering the waterway from this plant is a chromic acid waste from metal plating tanks. As much as 1000 gallons, or about 200 pounds of the acid, may be lost each day. At least two fish kills have been attributed to the dumping of this acid waste which constitutes one of the greatest pollution problems on the watershed. In addition to the chromic acid, Boeing Plant No. 2 also has wastes from a large acetylene generator. Waste carbide is dumped on the ground near the generator or hauled to the city dump and thus does

not get into the Duwamish. Cutting oil from machine tools is disposed of in a similar manner. A tank of sodium nitrate solution is situated on a platform over the river and a small amount of the spilled salt liquor drains into the water. Sodium nitrate in weak solutions is not believed to be harmful to aquatic life, however. The only other pollutant from this plant which drains into the waterway is a small amount of caustic used to clean planes.

Immediately south of Boeing Plant, No. 2 are the shops of the Isaacson Iron Works which turn out large forgings. Carbide waste from an acetylene generator was formerly dumped into the river, but is now dumped on the bank far enough back from the waterway so that no more enters the water. Cooling water is the only waste reported to now be reaching the Duwamish. However, a galvanizing plant is being installed and it is probable that this company may wish to drain acid tanks into the waterway.

The Mineralized Cell Wood Preserving Company lies to the South of the Isaacson Iron Works. This company employs a process whereby a solution containing arsenic and also sulfate salts of copper and zinc is heated and applied to the base of logs under pressure. A precipitating agent sets the chemicals and thus hardens the wood. The storage tanks in which the solution is heated are washed twice daily. Any sludge or remaining chemicals drains onto the ground. Supply tanks holding fuel oil have occasionally overflowed during filling but the oil seeps into the ground rather than draining into the river. No chemicals reach the waterway except those that leach out of the wood

when the poles are shipped by water.

The Bisbell Lumber Company, which is across the slough from the Mineralized Cell Preserving Company, has not operated for several months.

No contamination to the Duwamish results from the No. 3 Plant of the Boeing Aircraft Company since it is somewhat removed from the waterway and since it is used for storage only.

The next large industrial establishment on the east side of the Duwamish is the Standard Lumber and Manufacturing Company. All of the sawdust from this mill is either burned or sold for fuel. On the northeast bank of the next slough upstream is the No. 2 plant of the Pacific Rendering Company. This plant processes halibut livers to obtain the high vitamin content oil, the residue is made into fish meal. Washings from the processing tanks containing some soap, a small amount of caustic and a few solids are discharged into the slough. A rendering plant for slaughterhouse wastes formerly occupied a position nearby but this plant was completely destroyed by fire in April 1943 and is being rebuilt in a different locality.

The Pankratz Lumber Company is situated across the slough from the Pacific Rendering Company. All of the sawdust from this mill is sold. A part of the shavings from the plaining mill are burned for fuel, the surplus is blown though a pipe and dumped at the river's edge. Only a very small part of the shavings is reaching the river at the present time but the refuse pile is sufficiently close to the Duwamish to constitute a potential source of pollution.

The City Packing Company is located on the west bank of the Duwamish, directly across from the Standard Lumber and Manufacturing Company. This is a small slaughterhouse which kills about 150 cattle per week, nothing else. Paunch manure, blood, floor washings, etc., all go directly into the waterway. There is no grease trap.

The Seattle Packing Company is located about one-half mile due west of the slaughterhouse mentioned above. It is a relatively large packing plant with a capacity of about 100 beef, 200 lambs and 200 hogs per day. Restricted operations have reduced their daily slaughter to about 50 beef, 100 lambs, and 75 hogs. All of the blood is saved; paunch manure, floor washings and the like go through two grease traps (a third is to go into operation soon) and thence to a local sewer. This sewer empties into a small, slow flowing creek which is little more than an open ditch. This creek, which reeks with the stench of the packing house waste, also picks up the sewage from several farm houses before it enters the Duwamish. A controversy now exists between the Packing Company and King County over the responsibility for this unsanitary and highly polluted condition. The situation remains uncorrected.

The Acme Packing Company is situated on East Marginal Way near the first large bend of the Duwamish River. This Packing Company is now killing 110 cattle per day, or the equivalent. Four sheep or four hogs are considered equivalent to one beef. Blood is save, paunch manure goes directly to the sewer, Washings from the killing

floor, sausage room, cooking tanks, etc., go through grease traps before draining to the sewer, and thence to the Duwamish.

This completes the highly industrialized section of the Duwamish waterway which lies within or near the city limits of Seattle. A preceptable river flow and a less brackish water characterizes the river in the next section upstream.

Duwamish

The unincorporated town of Duwamish borders the river just south of the city limits of Seattle. This was originally a farming community and several of the old houses have sewage going directly into the river. Houses constructed in relatively recent years are for the most part, equipped with septic tanks. There are no large sewer groups discharging into the river.

On the east bank of the Duwamish, not far north of the old mouth of the Black River is the Seattle Rendering Works Incorporated. This plant is engaged in rendering the fat out of meat scraps collected from butcher shops and in reclaiming fats salvaged by housewives for the war effort. Although residents living downstream from the plant accuse this establishment of dumping entrals and other discarded animal parts into the river, no evidence could be found to substantiate the claims. It seems unlikely that this rendering plant is guilty of such a practice since it is their business to process such material. However, tin cans containing fat are brought to the plant in cardboard cartons, and the cans are discarded at various places on the property, many of them fall

into the river. The cardboard cartons are piled on the bank of the river for burning, and a number of these also fall into the river and float down stream. In August 1943, the Pollution Commission directed this plant to discontinue the dumping of any material into the Duwamish River.

Near Renton Junction is an old slaughter house of the Community Packing Company. This plant has not operated for several years so contributes nothing to the river at the present time.

The Longacres Race track is well supplied with septic tanks which drain into a swamp to the east. No drainage from this track is reported to enter the river, which from here upstream is called the Green rather than the Duwamish.

Between Renton Junction and the City of Kent, the Green River receives a nominal amount of barnyard and farm house drainage.

Kent

The City of Kent is the center of a large vegetable and berry producing community and its industries include a cannery and two frozen food packing plants. Of its population of 2,586 persons, approximately 2,000 are served by the city sewer system. Others have septic tanks, cesspools or privies. Municipal sewage goes first to a septic tank and then is discharged into the Green River through a 24" outfall. Storm drainage is handled by a separate system which reaches the river by way of an open ditch.

Libby McNeil and Libby operate a large cannery in Kent, the production and capacity figures for which are not readily available.

The principal products canned are beans and saurkraut, usually blackberries are also put up. All bean pods, culls, etc. are hauled away for hog feed. Unusuable cabbage leaves are dumped on a field to decompose. Floor washings and the like are collected in drain troughs equipped with permanent screens with 3/8 inch holes. These screens remove a large part of the solids. The washings then go to a large concrete trap which collects most of the settleable solids, the remainder goes into the city sewer.

The Santa Cruz Fruit Packing Company puts up some 2,500 tons of frozen foods each year during a season which extends from about the first of June to the middle of September. This packing company employs some 180 workers during the height of the season. The products frozen include peas, strawberries, raspberries, string beans, and peaches. Figures on the quantity of each product put up are not available. Culls, pealings, pits, etc. are screened out and hauled away, the remaining wash water goes into the city sewer.

Washington Frosted Foods also operate a freezing plant in Kent. Their packing season is similar to that of the Santa Cruz Packing Comand includes such vegetables as peas, corn, beans, asparagus, spinach, and broccoli. During the season some 1100 tons of produce are put up. Peas and corn form the greater part of the pack. Corn husks, washings, culls, and the like are hauled off for hog feed. Screens on the drains separate out the coarse solids. The wash-water goes into the city sewer. A maximum of 140 people are employed at this plant during the

height of the season.

Auburn

Some five miles upstream from Kent is the City of Auburn. Of the 5000 population of Auburn, over 4500 are served by municipal sewers. About 3000 of these are connected to a trunk sewer draining northeast to a septic tank. The sewage is chlorinated as it leaves the septic tank and drains to the Green River. A second sewerage group, draining to the west, serves the remainder of the population. This sewage, after running through an inadequate septic tank, is discharged into Mill Creek.

Mill Creek is a small creek arising in the valley to the South of Auburn and picks up drainage from such Lakes as Dolloff, North and Geneva. In addition to the sewage from Auburn, this creek carries a large amount of barnyard drainage from the numerous farms that line its banks and also the waste products from a dairy. It flows northward for a distance of about five miles and enters the Green River near Kent. The pollution load in Mill Creek is so great during dry seasons of the year that it is unfit for stock watering. Near its entrance into the Green River it becomes practically void of dissolved oxygen and is wholly unfit for fish life.

Within the City of Auburn, there is a laundry, a creamery, and a round house of the Northern Pacific Railway.

waste to the sewage. At the round house there are two poorly tended oil sumps which are supposed to trap any oil which may be spilled or

washed off of engines. There was evidence that considerable quantities of oil drain through the sumps and are carried into the city sewers.

Upper Green River Drainage

About two miles east of Auburn the Green River is joined by Soos Creek. This creek rises in the hills to the north and east and drains Youngs, Shadow, Meridian and Sawyer Lakes. For the most part is is a swift, clear stream, relatively free from pollution except for a minor amount of farm drainage. In addition to trout populations it supports excellent runs of chinook, silver, and dog salmon. The State Fisheries Department maintains a salmon hatchery on Soos Creek near its mouth.

The J. A. Ey Packing Company is situated a few hundred yards south of the Green River a short distance upstream from the entrance of Soos Creek. This meat packing plant slaughters about 20 cattle and one or two hogs per day. Blood, paunch manure, floor washings and the like drain through a grease trap, then through an open ditch to a slough which communicates with Green River.

Some two miles further upstream, near the northern bank of the river, the Smith Brother's Silica Sand Company operates a washer. Water from the Green River is pumped to the top of the washer where it is mixed with the sand and clay of a nearby hill. As the mixture runs down through the washer the clay is removed from the silica sand leaving a clean product. The clay layden water is directed into a large settling basin at the side of the river which acts as a sand filter. This filter system apparently works in a satisfactory manner, since the Green River shows

no discoloration from this washer. The local State Game Protector inspects this plant periodically.

The Gem Coal Company operates a small mine about a mile upstream from the sandwasher. Drainage from this mihe, which is almost negligable, goes into a nearby creek and thence down this creek for a few hundred yards to the Green River.

Near Black Diamond are the mines of the Pacific Coast Coal Minihg Company. Drainage from their largest operating mine goes into a small creek flowing toward the Green River. However, the greater part of this creek apparently seeps under ground before entering the river in the Green River Gorge section. At another location this company operates a large coal washer, the drainage from which goes into an abandoned mine and must filter out before reaching the Green River surface drainage.

Several other small coal mines operate in the Black Diamond area, but their drainage is trivial and does not communicate directly with the Green River.

The town of Kanaskat has no general sewer system or groups of sewers discharging into the Green River. At the town of Cumberland there are no sewers and few septic tanks. Some of the houses situated on Deep Creek, a tributary of the Green River, may discharge their sewage directly into this stream.

Enumclaw

The City of Enumclaw is situated near Neuwakun Creek, a tributary of the Green River and Boise Creek, a tributary of the White River. Of

its population of 2,627 nearly all are served by city sewers. One sewer group, with a population load of about 1400, discharges into Boise Creek. Of the remaining sewered population about 800 are connected to a sewer draining eastward which after passing through a settling tank discharges into an open drainage ditch to the east of town. This ditch flows northward and joins Newaukun Creek. A third sewer group, serving about 400 persons drains to the northwest, receives some chlorination, passes through a settling tank and is discharged into Newaukum Creek.

STREAM USES

Water Supply

As pointed out in the introduction, the upper half of the Green River drainage has been taken over by the city of Tacoma for municipal water supply. Above Palmer, therefore, the Green River is as free from pollution as it is practical to make it. The railroad, the restricted logging operations, and the few small settlements within the watershed are carefully supervised by the Tacoma Water Department to assure that no contaminating substances drain directly into the river system.

No other instance is known where a domestic water supply is taken from the main stream of the Green River. Along the Duwamish waterway, however, there are several industries which utilize the river water for industrial purposes.

Fisheries

The Green River furnishes some of the most important sport fishing to be found in the State of Washington. Although fishing is not permitted

on the section of the watershed utilized by the City of Tacoma, most of the river below the Headworks Dam is easily accessable from paved roads. Thousands of fishermen frequent this stream to catch rainbow and cutthroat trout during the spring and summer and to catch adult steelhead trout during the winter.

The State Game Department has been extensively studying the important steelhead runs of the Green River for a number of years. They estimate[1] that in 1941, some 1,729 adult steelhead were caught by anglers. During this same year 1457 additional steelhead were caught in traps at spawn taking stations, and many more were known to have spawned in the main river. The steelhead of the Green River constitute not only one of the largest, but also one of the most highly exploited runs of the Puget Sound Area.

This river system also contributes to the Commercial and sport salmon fishing of the State. The State Fisheries Department operates a salmon hatchery on Soos Creek, one of the principal tributaries of the Green River. The spawn taking activities at this station accounts for the majority of chinook salmon eggs and a large percentage of the silver salmon eggs obtained from the fish of Puget Sound stock. During the peak year of 1941, this one tributary of the Green River, had a run of over 11,000 fall chinook salmon and nearly 12,400 silver salmon, many more spawn in the Green River and other tributaries. Since this run of salmon enter the Duwamish at Elliot Bay, it undoubtedly furnishes the vast majority of the fish caught by sportsmen in that area, in addition it contributes an unknown but highly significant amount of fish

to the commercial catch.

1. Washington State Department of Game, Biological Bulletin No. 5.

SUMMARY

For the purposes of a pollution study the Duwamish River drainage may be roughly divided into three sections. First, the highly industralized section of the Duwamish Waterways which lies almost wholly within the City Limits of Seattle; second, the Green River Drainage below Palmer Junction which is relatively free from industrial wastes but which receives a significant amount of domestic sewage, and third, the Upper Green River Watershed which serves as the water supply for the City of Tacoma and is as free from pollution as it can practically be made.

The great variety and vast number of industrial e stablishments situated along the banks of the Duwamish Waterway discharge wastes which can be placed in three major groups, viz. petroleum, chemical and organic. Significant amounts of petroleum wastes, usually oil, reach the waterway from the Todd Dry Docks, and occasionally from the General Petroleum Company, and the Richfield Oil Company fuel storage facilities. Oil wastes of less significance may also reach the waterway from the Associated Shipbuilding Company and the Pacific Coast Forge Co.

Chemical wastes originate principally from the large industries which work with metals. The partifular chemical waste apparently causing the greatest harm to aquatic life at the present time is a highly toxic chromic acid solution discarded by Plants No. 1 and No. 2 of the Boeing Aircraft Company. At least two fish kills have been

attributed to the presence of this waste in the Duwamish Waterway.

By weight the greatest source of chemical contamination is from acetylene gas generators. A total of about 1500 pounds of waste carbide is dumped into the waterway every day. The compahies chiefly responsible for the dumping of this large amount of highly alkaline waste are the Todd Dry Docks, the Associated Shipbuilding Company and the Hydraulic Supply Manufacturing Company. Acetylene wastes from the Boeing Aircraft Company and the Isaacson Iron Works are fortunately not being dumped into the river.

Galvanizing, metal plating and steel plating tanks form another source of chemical pollution which contaminates the river from time to time. The National Steel Construction Company discharges the greatest amount of such acid wastes into the Duwamish but smaller amounts also reach the river from the Associated Shipbuilding Company.

Chemicals which are toxic to aquatic organisms also find their way into the Duwamish from the I. F. Laucks Company and the charcoal division of the Grown Zellerbach Corporation. The Puget Timber Company and the Mineralized Cell Wood Preserving Company chemically treat poles in order to preserve them. Sometimes the chemically treated poles are shipped by water and in such cases small amounts of the chemicals may enter the Duwamish from the poles.

The principal organic waste entering the Duwamish is sewage. An estimated 48,000 persons contribute waste products which normally enter the waterway through the effluent of a treatment plant or one of the

three direct sewer outfalls. A large proportion of the industrial plants situated along the waterway are too low in elevation to be served by municipal sewers and thus discharge their domestic sewage directly into the water. The National Fruit Canning Co. discharges a significant amount of fruit wastes into West Waterway during the spring and summer, but it is impossible to estimate the population equivalent of their cannery without sampling their effluent.

Three slaughter houses and packing plants, The Acme Packing Company, The Seattle Packing Company and The City Packing Company discharge their waste products into the river within a few hundred yards of each other. According to data given by Eldridge[2], these packing plants would have a combined population equivalent of about 4,000 persons.

Silting of the river bottom may occur from two sources in the lower Duwamish. First, the Klinker Sand and Gravel Company which has been operating a large gravel washer for many years and second from the sawdust of the several lumber mills. There is evidence that considerable quantities of sawdust reached the waterway many years ago but with the present value of sawdust as a fuel nearly all of the sawmills now collect this by-product and either use it for fuel themselves or sell it to dealers. Apparently the only sawdust now entering the waterway is that spilled during the loading of barges and is trivial in amount.

The Green River above Renton Junction does not directly receive the raw effluent of any large industrial plant. The pollution load of

2. Industrial Waste Treatment Practice. McCraw-Hill Book Co.Inc. N.Y. 1942.

this section of the river originates largely from the domestic sewage of Kent, Auburn and Enumclaw, and these three towns combined contribute the waste products of about 7700 persons. Several other small, unincorporated communities such as Duwamish, Orilla, Kanaskat, Cumberland and Palmer Junction, are situated on or near the banks of the Green River. Since these small settlements are unsewered and rely on septic tanks, cesspools, or privies for disposal of waste products, no estimate can be given for the pollution load which they exert upon the river.

One large cannery and two frozen food packing plants operate in Kent and while no estimate of the pollution load of these establishments can be made without analysis of their effluent, they undoubtedly greatly increase the population equivalent of the sewage reaching the Green River from this town. The J. A. Ey Packing Company located upstream from Auburn has an estimated population equivalent of about 400 persons. It is difficult to determine the quantity and strength of this waste actually entering the Green River since it must first drain through a swamplike slough.

The following table summarizes the principal cities and industries which contribute significant amounts of pollutants to the Duwamish and Green Rivers.

PRINCIPAL SOURCES OF POLLUTION ON THE DUWAMISH RIVER

SOURCE	TYPE OF WASTE ENTERING RIVER	AMOUNT
City of Seattle	Sewage Treatment plant effluent	Serves about 40,000 people
	Three sewers from South Park District	Serves about 8,000 people
City of Kent	Sewage (one outfall)	Serves about 2,000 people
City of Auburn	Sewage Green River outfall	Serves about 3,000 people
	Mill Creek outfall	Serves about 1,500 people
City of Enumclaw	Sewage Two outfalls on Neuwakum Cr.	Serve about 1,200 people
Industrial Plants	Sewage from local outfalls	Serve about 15,000 people
General Petroleum Co.	Oil	Spillage
Richfield Oil Company	Oil	Spillage
Todd Dry Docks	Oil Acetylene generator waste	Spillage 500 pounds per day
Associated Shipyards	Acetylene generator waste Acid metal dips	900 pounds per day Infrequent dumping of vats
Hydraulic Supply Manufacturing Company	Acetylene generator waste	150 pounds per day
Boeing Aircraft Co. Plants No. 1 and No. 2	Chromic acid	200 to 250 pounds per day and infrequent dumping of entire tank
National Steel Construction Company	Acid dip	1200 to 1500 gallons of solution dumped monthly
I. F. Laucks Company	Caustic wash	Considerable spillage and periodic draining of tank

PRINCIPAL SOURCES OF POLLUTION ON THE DUWAMISH RIVER (con't)

SOURCE	TYPE OF WASTE ENTERING RIVER	AMOUNT
Charcoal Division Crown Zellerbach Company	Copper ammoniate	750 gallons of so. ution dumped mont!
Acme Packing Company	Animal wastes	Est. P. E.* 2000
City Packing Company	Animal wastes	Est. P. E.* 500
Seattle Packing Co.	Animal wastes	Est. P. E.* 1500
J. A. Ey Packing Co.	Animal wastes	Est. P. E.* 400
National Fruit Canning Company	Fruit culls, pulp, etc.	Not determined
Libby McNeil & Libby Company	Vegetable canning wastes	Not determined
Washington Frosted Foods Inc.	Fruit and vegetable freezing wastes	Not determined
Santa Cruz Packing Co.	Fruit and vegetable freezing wastes	Not determined
Klinker Sand and Gravel Company	Gravel wash water	216,000 gallons per day

*P. E. abbreviates Population Equivalent.

SUPPLEMENT

The rapid expansion of the industrial section along the Duwamish Waterway during the first months of the war was viewed with apprehension by members of the Pollution Commission. Since no factual information was available on the physical and chemical characteristics of the water in this area it seemed advisable to collect at least such superficial data as was necessary to indicate the general conditons prevailing and to serve as a reference should an extensive survey be deemed necessary at some future date.

On August 28, 1942 samples of water were taken from the Duwamish at eight stations, which were distributed from the mouth of West Waterway upstream to a point about one-quarter mile above Plant No. 2 of the Boeing Aircraft Company. One additional station was taken just off the north end of Harbor Island, and two stations were taken in the East Waterway. Sampling was started shortly after a low tide of 0.6 feet.

An analysis of the samples taken disclosed a rather unexpected distribution of dissolved oxygen in the water. The surface water at the entrance to West Waterway contained 5.35 parts per million of dissolved oxygen; the oxygen content of the surface water then steadily increased as one went upstream until at the station above the Boeing No. 2 Plant it was found to be 6.70 parts per million. On the other hand, the dissolved oxygen content at a depth of 15 feet was 5.60 p,p.m. at the mouth of West Waterway and subsequent samples taken at similar depths as one went up the river showed progressively less oxygen until

PRESTON GATES & ELLIS LLP
ATTORNEYS

FAX COVER SHEET

May 27, 1997
(Date)

To: Lisa J. Zinner, P.E.
(Individual)

Department of Ecology
(Company)

649-7098
(Telecopy No.)

649-7196
(Confirmation No.)

From: William H. Chapman

No. of Pages: 8
(Including Cover Page)

Re: # 31227-00007

If you do not receive all of the pages, please contact: X Telecopy operator: (206) 623-7580
Name:
Ext.:

COMMENTS:

PRESTON GATES & ELLIS LLP
ATTORNEYS

May 27, 1997

Ms. Carla J. Skog
Water Quality Permit Coordinator
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue S.E.
Bellevue, WA 98008-5452

Re: Holnam, Inc. NPDES Permit No. WA-000233-2
Comments to Draft Permit and Fact Sheet

Dear Ms. Skog:

This letter contains Holnam's comments to the public comment draft permit and fact sheet.

COMMENTS TO DRAFT PERMIT

Special Condition S1.B "Stormwater Discharges - Interim Effluent Limitations"

- We support the Department's proposal to set interim performance-based limits for turbidity. Holnam believes that interim performance-based limits should also be set for TSS and pH in recognition of the recycling capital construction project required by this permit. The current permit for Holnam's plant provides expressly for performance-based limits to allow time for construction and startup of the treatment system, see Special Condition S1.A, footnote e, and we understand Ecology relied on that condition to set the turbidity performance-based limits in this draft permit. This condition clearly shows Ecology's intent that the limits in the current permit will be changed to performance-based limits pending construction of any system required by the Engineering Report.

  Setting performance-based limits for TSS and pH will not violate the anti-backsliding provisions of the Clean Water Act. The current permit allows less stringent limits to be set pending construction of the recycling system. Also, the circumstances on which the previous permit was based have materially and substantially changed. In a short time, Holnam will be recycling most of its stormwater. The construction of the recycling facility was not envisioned at the time the current permit was issued. In addition, new information is available from collection of several years of monitoring data in the interim. As Holnam's representatives have discussed with Ecology staff, the information now